



## SHACKLE, CARBON AND ALLOY STEEL- CATALOG

Product types:

### Type IVA - Anchor shackles and Type IVB - Chain shackles Grade A Regular or B High strength

\*\*\*\*Shackles meet or exceed the requirements of RR-C-271X\*\*\*\*

Shackles forged from carbon steel. Pins and bolts for grade A shackles are made from carbon or alloy steel. Grade B shackles, together with their pins and bolts, are forged from alloy steel as specified. The threads for Screw-pin shackles threaded after fabrication to final size and shape. Threads shall conform to ASME B1.1 for Unified Coarse (UNC/UNRC) threads. Threads on finished shackles are at least class 1 fit.

Shackles withstand the proof loads and Breaking loads shown in table I .

### Class Per Fiture II

1. Class 1 - Round pin and cotter
2. Class 2 - Screw pin
3. Class 3 - Bolt, nut and cotter

### Material options:

1. Carbon Steel
2. Alloy Steel
3. Stainless Steel

### Finishing options:

1. Zinc coating
2. Paint over galvanizing
3. Custom

**Table I**

Size (D) <sup>(1)</sup> (nominal) (inches)	PIN size number	Working load limit (pounds)		Proof load (min) (pounds)		Breaking load (min) (pounds)	
		Grade A	Grade B	Grade A	Grade B	Grade A	Grade B
3/16	03	650	1,000	1,430	2,200	3,250	5,000
1/4	04	1,000	1,500	2,200	3,300	5,000	7,500
5/16	05	1,500	2,500	3,300	5,500	7,500	12,500
3/8	06	2,000	4,000	4,400	8,800	10,000	20,000
7/16	07	3,000	5,200	6,600	11,440	15,000	26,000
1/2	08	4,000	6,600	8,800	14,520	20,000	33,000
5/8	10	6,500	10,000	14,300	22,000	32,500	50,000
3/4	12	9,500	14,000	20,900	30,800	47,500	70,000
7/8	14	13,000	19,000	28,600	41,800	65,000	95,000
1	16	17,000	25,000	37,400	55,000	85,000	125,000
1-1/8	18	19,000	30,000	41,800	66,000	95,000	150,000
1-1/4	20	24,000	36,000	52,800	79,200	120,000	180,000
1-3/8	22	27,000	42,000	59,400	92,400	135,000	210,000
1-1/2 <sup>(2)</sup>	24	34,000	50,000	74,800	110,000	170,000	250,000
1-1/2 <sup>(3)</sup>	24	34,000	60,000	74,800	132,000	170,000	300,000
1-5/8 <sup>(2)</sup>	26	40,000	58,000	88,000	127,600	200,000	290,000
1-5/8 <sup>(3)</sup>	26	40,000	70,000	88,000	154,000	200,000	350,000
1-3/4 <sup>(2)</sup>	28	50,000	68,000	110,000	149,600	250,000	340,000
1-3/4 <sup>(3)</sup>	28	50,000	80,000	110,000	176,000	250,000	400,000
2 <sup>(2)</sup>	32	70,000	86,000	154,000	189,200	350,000	430,000
2 <sup>(3)</sup>	32	70,000	100,000	154,000	220,000	350,000	500,000
2-1/4 <sup>(4)</sup>	36	80,000	120,000	176,000	264,000	400,000	600,000
2-1/2 <sup>(4)</sup>	40	110,000	160,000	242,000	352,000	550,000	800,000
2-3/4 <sup>(4)</sup>	44	120,000	180,000	264,000	396,000	600,000	900,000
3 <sup>(4)</sup>	48	170,000	220,000	374,000	484,000	850,000	1,100,000
3-1/2 <sup>(4)</sup>	56	240,000	280,000	528,000	616,000	1,200,000	1,400,000
4 <sup>(4)</sup>	64	300,000	350,000	660,000	770,000	1,500,000	1,750,000

(1) – all classes unless noted

(2) – class 1, grade A and B and class 2, grade A and B

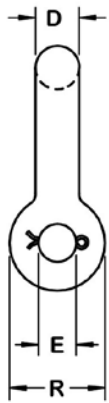
(3) – class 3, grade A and B

(4) – class 1, 2 and 3, grade A; class 3, grade B (no class 1 or 2 in grade B in sizes 2-1/4 and above)

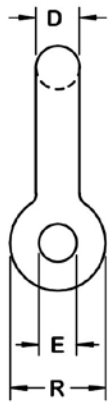
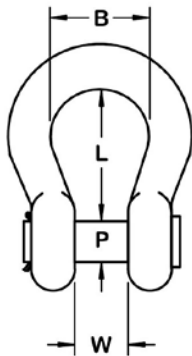


# G&T INDUSTRIES

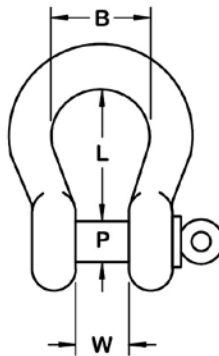
**Figure II**



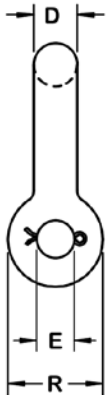
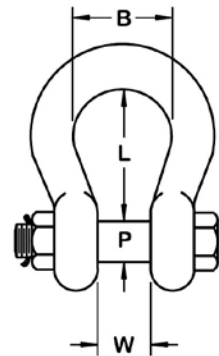
**CLASS 1 ROUND PIN AND  
COTTER ANCHOR SHACKLE**



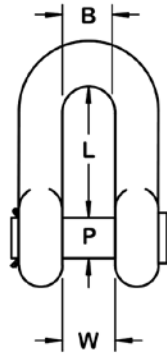
**CLASS 2 SCREW PIN  
ANCHOR SHACKLE**



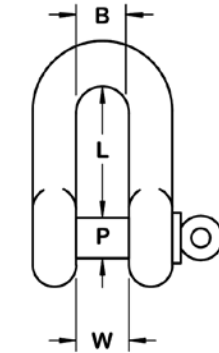
**CLASS 3 BOLT, NUT, AND  
COTTER ANCHOR SHACKLE**



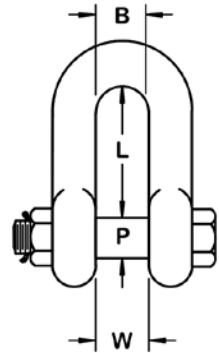
**CLASS 1 ROUND PIN AND  
COTTER CHAIN SHACKLE**



**CLASS 2 SCREW PIN  
CHAIN SHACKLE**



**CLASS 3 BOLT, NUT, AND  
COTTER CHAIN SHACKLE**



**TABLE III Type IVA, class 1, round pin and cotter anchor shackles.**

Trade size (nom) (inches)	Dimension (D) (min) (inches)	Diameter pin (P) (min) (inches)	Diameter inside eye (E) (ref) (inches)	Width between eyes (W) ± nominal tolerance (inches)	Length inside (L) ± nominal tolerance (inches)	Width bow (B) (min) (inches)	Diameter outside eye (R) (max) (inches)	Weight per 100 shackles (approx) (pounds)
3/16	0.18	0.24	0.29	0.38 ±0.13	0.88 ±0.06	0.56	0.63	5
1/4	0.24	0.30	0.40	0.47 ±0.13	1.13 ±0.06	0.75	0.88	12
5/16	0.30	0.37	0.47	0.53 ±0.13	1.25 ±0.06	0.81	1.00	18
3/8	0.36	0.43	0.53	0.66 ±0.13	1.44 ±0.13	0.93	1.13	30
7/16	0.42	0.49	0.59	0.75 ±0.13	1.69 ±0.13	1.06	1.25	49
1/2	0.48	0.61	0.72	0.81 ±0.13	1.88 ±0.13	1.18	1.38	74
5/8	0.59	0.73	0.84	1.06 ±0.13	2.38 ±0.13	1.50	1.88	144
3/4	0.71	0.85	0.97	1.25 ±0.13	2.81 ±0.25	1.75	2.13	216
7/8	0.83	0.98	1.09	1.44 ±0.13	3.31 ±0.25	2.00	2.38	337
1	0.95	1.10	1.22	1.69 ±0.13	3.75 ±0.25	2.31	2.63	530
1-1/8	1.07	1.22	1.34	1.81 ±0.13	4.25 ±0.25	2.62	2.88	700
1-1/4	1.19	1.34	1.47	2.03 ±0.13	4.69 ±0.25	2.87	3.25	960
1-3/8	1.31	1.46	1.62	2.25 ±0.19	5.25 ±0.25	3.25	3.50	1,260
1-1/2	1.42	1.58	1.75	2.38 ±0.19	5.75 ±0.25	3.37	3.75	1,730
1-5/8	1.54	1.71	1.87	2.62 ±0.19	6.25 ±0.25	4.00	4.13	2,200
1-3/4	1.66	1.95	2.15	2.88 ±0.19	7.00 ±0.25	4.50	4.50	2,780
2	1.90	2.19	2.40	3.25 ±0.19	7.75 ±0.50	5.25	5.25	4,110
2-1/4	2.14	2.44	2.65	3.88 ±0.19	9.25 ±0.50	5.50	5.75	5,600
2-1/2	2.38	2.68	2.90	4.12 ±0.25	10.50 ±0.50	6.75	6.25	8,350
3	2.85	3.17	3.40	5.00 ±0.25	13.00 ±0.75	7.37	6.75	11,900
3-1/2	3.32	3.66	3.90	5.25 ±0.25	15.00 ±0.75	9.00	8.50	21,200
4	3.80	4.14	4.40	5.50 ±0.25	14.50 ±0.75	10.50	9.50	30,500

**TABLE IV. Type IVA, class 2, screw pin anchor shackles.**

Trade size (nom) (inches)	Dimension (D) (min) (inch)	Diameter pin (P) (min) (inches)	Diameter unthreaded eye (E) (ref) (inches)	Width between eyes (W) $\pm$ nom tolerance (inches)	Length inside (L) $\pm$ nom tolerance (inches)	Width bow (B) (min) (inches)	Major dia. threaded eye (ref) (inches)	Dia. outside eye (R) (max) (inches)	Weight per 100 shackles (approx) (pounds)
3/16	0.18	0.24	0.31	0.38 $\pm$ 0.13	0.88 $\pm$ 0.06	0.56	0.281	0.63	5
1/4	0.24	0.30	0.40	0.47 $\pm$ 0.13	1.13 $\pm$ 0.06	0.75	0.344	0.88	12
5/16	0.30	0.37	0.47	0.53 $\pm$ 0.13	1.25 $\pm$ 0.06	0.81	0.406	1.00	18
3/8	0.36	0.43	0.53	0.66 $\pm$ 0.13	1.44 $\pm$ 0.13	0.93	0.469	1.12	30
7/16	0.42	0.49	0.59	0.75 $\pm$ 0.13	1.69 $\pm$ 0.13	1.06	0.531	1.25	49
1/2	0.48	0.61	0.72	0.81 $\pm$ 0.13	1.88 $\pm$ 0.13	1.18	0.656	1.37	74
5/8	0.59	0.73	0.84	1.06 $\pm$ 0.13	2.38 $\pm$ 0.13	1.50	0.781	1.87	144
3/4	0.71	0.85	0.97	1.25 $\pm$ 0.13	2.81 $\pm$ 0.25	1.75	0.906	2.12	216
7/8	0.83	0.98	1.09	1.44 $\pm$ 0.13	3.31 $\pm$ 0.25	2.00	1.031	2.37	337
1	0.95	1.10	1.22	1.69 $\pm$ 0.13	3.75 $\pm$ 0.25	2.31	1.156	2.62	530
1-1/8	1.07	1.22	1.34	1.81 $\pm$ 0.13	4.25 $\pm$ 0.25	2.62	1.297	2.87	700
1-1/4	1.19	1.34	1.47	2.03 $\pm$ 0.13	4.69 $\pm$ 0.25	2.87	1.422	3.25	960
1-3/8	1.31	1.46	1.62	2.25 $\pm$ 0.19	5.25 $\pm$ 0.25	3.25	1.547	3.50	1,260
1-1/2	1.42	1.58	1.75	2.38 $\pm$ 0.19	5.75 $\pm$ 0.25	3.37	1.672	3.75	1,730
1-5/8	1.54	1.71	1.87	2.62 $\pm$ 0.19	6.25 $\pm$ 0.25	4.00	1.797	4.12	2,200
1-3/4	1.66	1.95	2.15	2.88 $\pm$ 0.19	7.00 $\pm$ 0.25	4.50	2.047	4.50	2,780
2	1.90	2.19	2.40	3.25 $\pm$ 0.19	7.75 $\pm$ 0.50	5.25	2.297	5.25	4,110
2-1/4	2.14	2.44	2.65	3.88 $\pm$ 0.19	9.25 $\pm$ 0.50	5.50	2.547	5.75	5,600
2-1/2	2.38	2.68	2.90	4.12 $\pm$ 0.25	10.50 $\pm$ 0.50	6.75	2.797	6.25	8,350
3	2.85	3.17	3.40	5.00 $\pm$ 0.25	13.00 $\pm$ 0.75	7.37	3.297	6.75	11,900
3-1/2	3.32	3.66	3.90	5.25 $\pm$ 0.25	15.00 $\pm$ 0.75	9.00	3.797	8.50	21,200
4	3.80	4.14	4.40	5.50 $\pm$ 0.25	14.50 $\pm$ 0.75	10.50	4.297	9.50	30,500

**TABLE V. Type IVA, class 3, bolt, nut and cotter anchor shackles.**

Trade size (nom) (inches)	Dimension (D) (min) (inch)	Diameter bolt (P) (min) (inches)	Diameter inside eye (E) (ref) (inches)	Width between eyes (W) $\pm$ nom tolerance (inches)	Length inside (L) $\pm$ nom tolerance (inches)	Width bow (B) (min) (inches)	Diameter outside eye (R) (max) (inches)	Weight per 100 shackles (approx) (pounds)
3/16	0.18	0.24	0.29	0.38 $\pm$ 0.13	0.88 $\pm$ 0.06	0.56	0.63	5
1/4	0.24	0.30	0.40	0.47 $\pm$ 0.13	1.13 $\pm$ 0.06	0.75	0.88	12
5/16	0.30	0.36	0.47	0.53 $\pm$ 0.13	1.25 $\pm$ 0.06	0.81	1.00	18
3/8	0.36	0.43	0.53	0.66 $\pm$ 0.13	1.44 $\pm$ 0.13	0.93	1.13	30
7/16	0.42	0.49	0.59	0.75 $\pm$ 0.13	1.69 $\pm$ 0.13	1.06	1.25	49
1/2	0.48	0.61	0.72	0.81 $\pm$ 0.13	1.88 $\pm$ 0.13	1.18	1.38	82
5/8	0.59	0.73	0.84	1.06 $\pm$ 0.13	2.38 $\pm$ 0.13	1.50	1.88	158
3/4	0.71	0.85	0.97	1.25 $\pm$ 0.13	2.82 $\pm$ 0.25	1.75	2.13	280
7/8	0.83	0.98	1.09	1.44 $\pm$ 0.13	3.31 $\pm$ 0.25	2.00	2.38	395
1	0.95	1.10	1.22	1.69 $\pm$ 0.13	3.75 $\pm$ 0.25	2.31	2.63	560
1-1/8	1.07	1.22	1.34	1.81 $\pm$ 0.13	4.25 $\pm$ 0.25	2.62	2.88	785
1-1/4	1.19	1.34	1.47	2.03 $\pm$ 0.13	4.69 $\pm$ 0.25	2.87	3.25	1,120
1-3/8	1.31	1.46	1.62	2.25 $\pm$ 0.19	5.25 $\pm$ 0.25	3.25	3.50	1,520
1-1/2	1.42	1.58	1.75	2.38 $\pm$ 0.19	5.75 $\pm$ 0.25	3.37	3.75	1,950
1-5/8	1.54	1.71	1.87	2.62 $\pm$ 0.19	6.25 $\pm$ 0.25	4.00	4.13	2,410
1-3/4	1.66	1.95	2.15	2.88 $\pm$ 0.19	7.00 $\pm$ 0.25	4.50	4.50	3,130
2	1.90	2.19	2.40	3.25 $\pm$ 0.19	7.75 $\pm$ 0.50	5.25	5.25	4,630
2-1/4	2.14	2.44	2.65	3.88 $\pm$ 0.19	9.25 $\pm$ 0.50	5.50	5.75	5,650
2-1/2	2.38	2.68	2.90	4.12 $\pm$ 0.25	10.50 $\pm$ 0.50	6.75	6.25	9,400
3	2.85	3.17	3.40	5.00 $\pm$ 0.25	13.00 $\pm$ 0.75	7.37	6.75	14,500
3-1/2	3.32	3.66	3.90	5.25 $\pm$ 0.25	15.00 $\pm$ 0.75	9.00	8.50	26,500
4	3.80	4.14	4.40	5.50 $\pm$ 0.25	14.50 $\pm$ 0.75	10.50	9.50	35,800

**TABLE VI. Type IVB, class 1, round pin and cotter chain shackles.**

Trade size (nom) (inches)	Dimension (D) (min) (inch)	Diameter pin (P) (min) (inches)	Diameter inside eye (E) (ref) (inches)	Width between eyes (W) $\pm$ nom tolerance (inches)	Length inside (L) $\pm$ nom tolerance (inches)	Diameter outside eye (R) (max) (inches)	Weight per 100 shackles (approx) (pounds)
3/16	0.18	0.24	0.31	0.38 $\pm$ 0.13	0.75 $\pm$ 0.06	0.63	5
1/4	0.24	0.30	0.40	0.47 $\pm$ 0.13	0.88 $\pm$ 0.06	0.88	11
5/16	0.30	0.37	0.47	0.53 $\pm$ 0.13	1.03 $\pm$ 0.06	1.00	17
3/8	0.36	0.43	0.53	0.66 $\pm$ 0.13	1.25 $\pm$ 0.13	1.13	28
7/16	0.42	0.49	0.59	0.75 $\pm$ 0.13	1.44 $\pm$ 0.13	1.25	42
1/2	0.48	0.61	0.72	0.81 $\pm$ 0.13	1.62 $\pm$ 0.13	1.38	68
5/8	0.59	0.73	0.84	1.06 $\pm$ 0.13	2.00 $\pm$ 0.13	1.88	121
3/4	0.71	0.85	0.97	1.25 $\pm$ 0.13	2.38 $\pm$ 0.25	2.13	214
7/8	0.83	0.98	1.09	1.44 $\pm$ 0.13	2.81 $\pm$ 0.25	2.38	310
1	0.95	1.10	1.22	1.69 $\pm$ 0.13	3.19 $\pm$ 0.25	2.63	450
1-1/8	1.07	1.22	1.34	1.81 $\pm$ 0.13	3.56 $\pm$ 0.25	2.88	660
1-1/4	1.19	1.34	1.47	2.03 $\pm$ 0.13	3.94 $\pm$ 0.25	3.25	890
1-3/8	1.31	1.46	1.62	2.25 $\pm$ 0.19	4.44 $\pm$ 0.25	3.50	1,200
1-1/2	1.42	1.58	1.75	2.38 $\pm$ 0.19	4.88 $\pm$ 0.25	3.75	1,620
1-5/8	1.54	1.71	1.88	2.62 $\pm$ 0.19	5.25 $\pm$ 0.25	4.13	2,020
1-3/4	1.66	1.95	2.15	2.88 $\pm$ 0.19	5.75 $\pm$ 0.25	4.50	2,500
2	1.90	2.19	2.40	3.25 $\pm$ 0.19	6.75 $\pm$ 0.50	5.25	3,600
2-1/4	2.14	2.44	2.65	3.88 $\pm$ 0.19	7.13 $\pm$ 0.50	5.75	5,000
2-1/2	2.38	2.68	2.90	4.13 $\pm$ 0.25	8.00 $\pm$ 0.50	6.25	7,400
3	2.85	3.17	3.40	5.00 $\pm$ 0.25	9.00 $\pm$ 0.75	6.75	10,600
3-1/2	3.32	3.66	3.90	5.25 $\pm$ 0.25	10.50 $\pm$ 0.75	8.50	18,900
4	3.80	4.14	4.40	5.50 $\pm$ 0.25	12.00 $\pm$ 0.75	9.50	27,100

**TABLE VII. Type IVB, class 2, screw pin chain shackles.**

Trade size (nom) (inches)	Dimension (D) (min) (inch)	Diameter pin (P) (min) (inches)	Diameter unthreaded eye (E) (ref) (inches)	Width between eyes (W) $\pm$ nom tolerance (inches)	Length inside (L) $\pm$ nom tolerance (inches)	Major dia. threaded eye (ref) (inches)	Dia. outside eye (R) (max) (inches)	Weight per 100 shackles (approx) (pounds)
3/16	0.18	0.24	0.31	0.38 $\pm$ 0.13	0.75 $\pm$ 0.06	0.281	0.63	5
1/4	0.24	0.30	0.40	0.47 $\pm$ 0.13	0.88 $\pm$ 0.06	0.344	0.88	11
5/16	0.30	0.37	0.47	0.53 $\pm$ 0.13	1.03 $\pm$ 0.06	0.406	1.00	17
3/8	0.36	0.43	0.53	0.66 $\pm$ 0.13	1.13 $\pm$ 0.13	0.469	1.25	28
7/16	0.42	0.49	0.59	0.75 $\pm$ 0.13	1.44 $\pm$ 0.13	0.531	1.25	42
1/2	0.48	0.61	0.72	0.81 $\pm$ 0.13	1.63 $\pm$ 0.13	0.656	1.38	68
5/8	0.59	0.73	0.84	1.06 $\pm$ 0.13	2.00 $\pm$ 0.13	0.781	1.88	121
3/4	0.71	0.85	0.97	1.25 $\pm$ 0.13	2.38 $\pm$ 0.25	0.906	2.13	214
7/8	0.83	0.98	1.09	1.44 $\pm$ 0.13	2.81 $\pm$ 0.25	1.031	2.38	310
1	0.95	1.10	1.22	1.69 $\pm$ 0.13	3.19 $\pm$ 0.25	1.156	2.63	450
1-1/8	1.07	1.22	1.34	1.81 $\pm$ 0.13	3.56 $\pm$ 0.25	1.297	2.88	660
1-1/4	1.19	1.34	1.47	2.03 $\pm$ 0.13	3.94 $\pm$ 0.25	1.422	3.25	890
1-3/8	1.31	1.46	1.62	2.25 $\pm$ 0.19	4.44 $\pm$ 0.25	1.547	3.50	1,200
1-1/2	1.42	1.58	1.75	2.38 $\pm$ 0.19	4.88 $\pm$ 0.25	1.672	3.75	1,620
1-5/8	1.54	1.71	1.88	2.63 $\pm$ 0.19	5.25 $\pm$ 0.25	1.797	4.13	2,020
1-3/4	1.66	1.95	2.15	2.88 $\pm$ 0.19	5.75 $\pm$ 0.25	2.047	4.50	2,500
2	1.90	2.19	2.40	3.25 $\pm$ 0.19	6.75 $\pm$ 0.50	2.297	5.25	3,600
2-1/4	2.14	2.44	2.65	3.88 $\pm$ 0.19	7.13 $\pm$ 0.50	2.547	5.75	5,000
2-1/2	2.38	2.68	2.90	4.13 $\pm$ 0.25	8.00 $\pm$ 0.50	2.797	6.25	7,400
3	2.85	3.17	3.40	5.00 $\pm$ 0.25	9.00 $\pm$ 0.75	3.297	6.75	10,600
3-1/2	3.32	3.66	3.90	5.25 $\pm$ 0.25	10.50 $\pm$ 0.75	3.797	8.50	18,900
4	3.80	4.14	4.40	5.50 $\pm$ 0.25	12.00 $\pm$ 0.75	4.297	9.50	27,100



**TABLE VIII. Type IVB, class 3, bolt, nut and cotter chain shackles.**

Trade size (nom) (inches)	Dimension (D) (min) (inch)	Diameter bolt (P) (min) (inches)	Diameter inside eye (E) (ref) (inches)	Width between eyes (W) (inches)	Length inside (L) (inches)	Diameter outside eye (R) (max) (inches)	Weight per 100 shackles (approx) (pounds)
3/16	0.18	0.24	0.31	0.38 ±0.13	0.75 ±0.06	0.63	5
1/4	0.24	0.30	0.40	0.47 ±0.13	0.88 ±0.06	0.88	11
5/16	0.30	0.36	0.47	0.53 ±0.13	1.03 ±0.06	1.00	17
3/8	0.36	0.43	0.53	0.66 ±0.13	1.25 ±0.13	1.13	28
7/16	0.42	0.49	0.59	0.75 ±0.13	1.44 ±0.13	1.25	42
1/2	0.48	0.61	0.72	0.81 ±0.13	1.63 ±0.13	1.38	76
5/8	0.59	0.73	0.84	1.06 ±0.13	2.00 ±0.13	1.88	156
3/4	0.71	0.85	0.97	1.25 ±0.13	2.38 ±0.25	2.13	262
7/8	0.83	0.98	1.09	1.44 ±0.13	2.81 ±0.25	2.38	365
1	0.95	1.10	1.22	1.69 ±0.13	3.19 ±0.25	2.63	535
1-1/8	1.07	1.22	1.34	1.81 ±0.13	3.56 ±0.25	2.88	727
1-1/4	1.19	1.34	1.47	2.03 ±0.13	3.94 ±0.25	3.25	1,020
1-3/8	1.31	1.46	1.63	2.25 ±0.19	4.44 ±0.25	3.50	1,335
1-1/2	1.42	1.58	1.75	2.38 ±0.19	4.88 ±0.25	3.75	1,850
1-5/8	1.54	1.71	1.88	2.63 ±0.19	5.25 ±0.25	4.13	2,310
1-3/4	1.66	1.95	2.15	2.88 ±0.19	5.75 ±0.25	4.50	2,850
2	1.90	2.19	2.40	3.25 ±0.19	6.75 ±0.50	5.25	4,110
2-1/2	2.38	2.68	2.90	4.13 ±0.25	8.00 ±0.50	6.25	8,450
3	2.85	3.17	3.40	5.00 ±0.25	9.00 ±0.75	6.75	12,300
3-1/2	3.32	3.66	3.90	5.25 ±0.25	10.50 ±0.75	8.50	21,800
4	3.80	4.14	4.40	5.50 ±0.25	12.00 ±0.75	9.50	31,000